B4
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UNITED STATES NAVAL OBSERVATORY

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POSITIONS, AREAS, AND COUNTS OF SUNSPOTS JANUARY, 1956

By Winifred Sawtell Cameron

These results are based upon measurements made at the Naval Observatory on plates secured either there or at the Mt. Wilson Observatory. The symbols used for the entries in the successive columns are as follows:

U.T., the epoch of observation in Universal Time.
No., the identifying number of the group assigned by Mt. Wilson.
Δl, the heliographic difference in longitude from the central meridian, measured positive to the west.
φ, the heliographic latitude, measured positive to the north.
ρ, the heliocentric angular distance from the line joining the centers of the Earth and Sun.
A, the true area of the umbra plus penumbra, expressed in millionths of the visible hemisphere.
s, the number of spots.

An asterisk means that no Mt. Wilson number was assigned. Plates secured at the Naval Observatory are indicated by N, and those at Mt. Wilson by M. The plate quality, which follows, is indicated by:

1, Poor; 2, Fair; 3, Good; 4, Very Good; 5, Excellent.

The following five quantities are listed successively at the end of each day, and give for that day:

1. The total number of groups, g.
2. The longitude of the central meridian, L_0.
3. The latitude of the center of the disc, B_0.
4. The total value of A.
5. The total value of s.

The mean daily area and the mean relative sunspot number, $r=10g+s$ are given at the end of the month.

These results are a continuation of those published in the *Monthly Weather Review* from February 1, 1927 to December 31, 1947.

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U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
1.613	11420	−26	−24	34	12	1
N–2	11420	−25	−24	32	85	1
	11416	+ 8	+26	31	121	3
	11416	+12	+26	31	48	1
	11416	+13	+26	32	48	1
	11416	+13	+23	29	24	1
	11416	+14	+26	32	61	1
	11416	+16	+24	32	48	2
	11415	+56	+25	61	48	1
	11415	+62	+22	65	73	1
	(3)	(78)	(−3)		568	13
2.674	11420	−12	−24	24	12	1
N–2	11420	−11	−24	24	73	1
	11416	+22	+26	36	145	3
	11416	+23	+25	36	48	1
	11416	+26	+26	39	48	1
	11416	+27	+24	39	16	1
	11416	+28	+25	40	133	1
	11416	+29	+24	40	16	1
	(2)	(64)	(−3)		491	10
3.753	11427	−25	−18	29	16	7
M–3	11427	−23	−17	26	16	3
	11420	+ 1	−24	22	16	3
	11420	+ 2	−23	20	32	1
	11426	+12	+28	33	12	2
	11426	+13	+28	34	12	3
	11424	+22	+27	37	6	1
	11424	+25	+26	38	12	4
	11416	+36	+26	45	24	7
	11416	+36	+25	45	6	2
	11416	+37	+26	46	12	1
	11416	+40	+26	48	6	2
	11416	+42	+25	48	12	3
	11416	+42	+24	48	12	1
	11416	+43	+26	50	73	1
	11416	+43	+23	49	6	1
	(5)	(50)	(−3)		273	42
4.657	11427	−12	−17	18	16	1
N–2	11427	− 9	−18	17	24	1
	11427	− 9	−17	16	24	1
	11429	+ 3	−26	24	12	1
	11429	+ 4	−27	25	36	2
	11429	+ 5	−27	25	12	1
	11429	+ 6	−26	24	16	1
	11420	+14	−24	25	12	1
	11420	+14	−23	24	48	2
	11416	+55	+25	61	73	1
	(4)	(38)	(−3)		273	12

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
5.605	11427	0	−19	16	73	1
N–2	11427	+ 3	−18	16	73	1
	11429	+14	−28	29	73	1
	11429	+15	−26	28	48	1
	11420	+26	−23	33	73	1
	11416	+68	+25	71	73	1
	(4)	(25)	(−3)		413	6
6.600	11432	−85	−25	85	48	1
N–3	11431	−80	+23	81	145	1
	11430	−62	−17	63	12	1
	11430	−59	−18	60	12	1
	11427	+13	−17	18	73	2
	11427	+15	−17	20	36	2
	11427	+16	−17	21	12	1
	11429	+28	−28	36	32	1
	11420	+40	−23	44	24	1
	11416	+80	+26	82	145	1
	(7)	(12)	(−4)		539	12
7.728	11432	−69	−26	70	16	1
M–2	11432	−65	−25	66	12	1
	11432	−64	−25	65	16	1
	11431	−61	+24	66	85	1
	11430	−46	−16	47	12	4
	11430	−43	−17	44	6	1
	11430	−42	−18	44	24	4
	11433	+ 2	−27	24	6	1
	11433	+ 3	−25	22	6	1
	11433	+ 4	−27	24	6	1
	11427	+26	−18	29	16	4
	11427	+29	−18	33	12	3
	11427	+32	−17	34	24	2
	11429	+42	−26	46	12	1
	11420	+54	−25	56	32	5
	11420	+54	−24	55	6	1
	11420	+55	−24	56	12	1
	(7)	(357)	(−4)		303	33
8.635	11432	−50	−25	53	97	1
N–1	11431	−50	+24	56	145	1
	11430	−34	−17	36	61	1
	11430	−28	−18	32	48	1
	11428	− 7	−22	19	36	1
	11427	+44	−16	44	48	1
	11420	+76	−24	76	97	1
	(6)	(345)	(−4)		532	7
9.736	11435	−72	−30	74	145	1
M–2	11432	−40	−26	45	6	2
	11432	−37	−27	44	6	1

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U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11432	−36	−26	42	12	1
	11432	−35	−27	42	6	1
	11432	−34	−26	40	6	1
	11432	−33	−26	38	16	1
	11431	−36	+24	45	121	1
	11430	−22	−17	25	6	1
	11430	−18	−17	24	12	7
	11436	− 1	−35	33	12	1
	11428	+12	−24	24	6	1
	11427	+60	−17	61	16	1
	(7)	(331)	(−4)		370	20
10.741	11435	−59	−30	62	170	1
M−4	11432	−26	−26	34	24	6
	11432	−25	−25	33	16	3
	11432	−25	−26	33	24	6
	11432	−23	−25	31	12	2
	11432	−21	−25	29	16	7
	11432	−20	−25	28	16	1
	11432	−17	−25	26	16	1
	11431	−23	+24	36	145	1
	(3)	(318)	(−4)		439	28
11.722	11435	−47	−30	53	121	1
M−3	11432	−14	−27	27	16	3
	11432	−12	−26	26	36	4
	11432	− 9	−26	24	6	1
	11432	− 8	−26	24	6	1
	11432	− 7	−26	24	24	4
	11432	− 7	−24	23	24	5
	11432	− 6	−26	24	48	4
	11432	− 5	−25	23	16	5
	11432	− 5	−26	24	16	2
	11432	− 4	−26	24	16	1
	11431	− 8	+23	27	121	1
	11428	+35	−24	40	12	4
	(4)	(305)	(−4)		462	36
12.719	11435	−34	−30	42	133	1
M−4	11432	− 2	−27	24	12	1
	11432	− 1	−27	24	6	3
	11432	0	−26	24	97	3
	11432	+ 1	−27	24	6	1
	11432	+ 1	−26	24	6	2
	11432	+ 2	−25	23	6	1
	11432	+ 3	−26	24	24	9
	11432	+ 3	−24	21	16	4
	11432	+ 4	−25	22	12	4
	11432	+ 5	−24	22	16	4
	11432	+ 6	−24	22	12	3
	11432	+ 7	−25	24	97	6
	11431	+ 2	+26	30	12	1
	11431	+ 4	+23	26	97	1
	11431	+ 5	+25	29	12	3
	11428	+46	−26	50	16	1
	11428	+47	−24	51	6	1
	11428	+48	−24	51	12	4
	(4)	(291)	(−4)		598	53
13.821	11439	−79	+25	80	388	1
N−1	11437	−75	+29	77	145	1
	11437	−70	+30	75	194	1
	11435	−21	−29	33	121	1
	11432	+14	−27	27	121	1
	11432	+15	−26	27	36	1
	11432	+16	−25	26	61	1
	11432	+17	−26	28	61	1
	11432	+18	−25	27	24	1
	11432	+19	−25	28	24	1
	11432	+20	−25	28	61	1
	11432	+21	−24	27	48	1
	11432	+23	−25	29	145	2
	11431	+18	+23	33	121	1
	11438	+36	−17	38	36	1
	11438	+41	−16	43	36	1
	(6)	(277)	(−4)		1622	17
14.722	11440	−80	+20	81	388	1
N−1	11440	−75	+21	76	291	1
	11437	−64	+27	69	97	1
	11437	−61	+27	66	194	1
	11437	−56	+28	63	194	1
	11439	−62	+24	66	388	1
	11435	− 8	−30	27	121	1
	11432	+25	−27	34	145	1
	11432	+34	−24	38	97	1
	11432	+35	−25	40	145	1
	11431	+29	+23	39	121	1
	(6)	(265)	(−4)		2181	11
15.633	11440	−67	+20	71	242	1
N−1	11440	−64	+21	67	291	1
	11440	−61	+21	66	194	1
	11440	−59	+18	63	145	1
	11437	−55	+29	63	194	2
	11437	−49	+28	57	121	2
	11437	−47	+28	56	145	2
	11437	−44	+28	54	121	2
	11437	−41	+28	52	61	1
	11439	−50	+24	56	436	1
	11435	− 4	−30	26	48	1
	11435	− 3	−30	26	24	1
	11435	− 1	−30	25	24	1
	11435	+ 3	−30	26	73	1

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U.T.	No.	Δλ	φ	ρ	A	s
		°	°	°		
	11432	+37	−27	43	97	1
	11432	+39	−26	44	24	1
	11432	+46	−25	50	145	2
	11431	+41	+23	48	97	1
	11428	+70	−26	72	73	2
	(7)	(253)	(−5)		2555	25
16.744	11440	−60	+23	64	97	1
M−1	11440	−56	+22	61	73	2
	11440	−56	+23	62	32	1
	11440	−55	+21	60	24	1
	11440	−54	+18	59	97	1
	11440	−54	+21	59	16	1
	11440	−50	+20	55	291	2
	11440	−48	+21	54	242	1
	11440	−47	+17	53	61	1
	11440	−46	+23	53	24	1
	11440	−45	+21	51	388	2
	11440	−42	+18	47	291	2
	11437	−41	+28	52	194	1
	11437	−38	+27	50	16	1
	11437	−35	+28	47	97	2
	11437	−34	+28	46	24	1
	11437	−32	+28	45	242	2
	11437	−29	+28	44	24	1
	11437	−28	+28	44	48	1
	11437	−25	+27	41	36	1
	11439	−39	+25	48	32	1
	11439	−36	+22	44	24	1
	11439	−35	+24	44	388	2
	11435	+ 6	−30	26	12	1
	11435	+ 9	−30	26	16	1
	11435	+14	−30	28	16	1
	11435	+16	−31	30	85	1
	11431	+49	+25	56	16	1
	11431	+54	+24	60	73	1
	11432	+51	−27	54	48	3
	11432	+61	−25	63	61	1
	(6)	(238)	(−5)		3088	40
17.624	11443	−85	+25	87	582	1
N−1	11442	−70	+26	75	145	1
	11440	−47	+23	54	36	1
	11440	−44	+21	51	16	1
	11440	−44	+22	51	145	1
	11440	−41	+22	47	16	1
	11440	−40	+20	46	24	3
	11440	−36	+20	44	194	3
	11440	−34	+23	44	291	1
	11440	−34	+20	42	291	3
	11440	−31	+19	38	32	1
	11440	−30	+19	38	16	1
	11440	−29	+20	38	145	2
	11437	−29	+28	44	97	1
	11437	−26	+30	44	36	1
	11437	−24	+28	41	32	1
	11437	−23	+28	40	61	2
	11437	−21	+28	38	24	1
	11437	−19	+29	39	242	2
	11437	−16	+29	36	32	1
	11437	−15	+28	36	32	1
	11437	−14	+28	36	24	1
	11439	−24	+24	37	485	1
	11435	+28	−30	36	48	1
	11432	+63	−26	65	97	1
	11432	+71	−25	73	97	1
	11431	+66	+25	71	73	1
	(8)	(227)	(−5)		3313	36
18.594	11443	−80	+27	84	242	1
N−1	11443	−65	+25	69	436	1
	11442	−59	+25	65	145	1
	11440	−35	+23	44	48	1
	11440	−33	+21	41	194	2
	11440	−31	+21	39	36	1
	11440	−28	+21	37	242	2
	11440	−27	+19	36	97	1
	11440	−26	+21	36	242	3
	11440	−24	+20	34	436	2
	11440	−22	+20	33	388	2
	11440	−18	+19	31	48	1
	11440	−16	+20	29	194	2
	11437	−17	+28	36	145	1
	11437	−15	+31	37	97	2
	11437	−13	+28	35	48	2
	11437	−11	+28	34	32	1
	11437	−11	+27	34	32	1
	11437	− 8	+28	34	32	2
	11437	− 6	+29	35	291	1
	11437	− 2	+28	33	32	1
	11437	− 1	+28	33	32	1
	11439	−13	+22	29	48	2
	11439	−12	+24	31	485	2
	11435	+34	−29	41	121	3
	11435	+36	−29	43	48	1
	11435	+38	−29	44	36	1
	11435	+41	−29	46	32	1
	(6)	(214)	(−5)		4259	42
19.739	11443	−60	+30	66	73	4
M−4	11443	−59	+26	65	48	5
	11443	−58	+28	65	16	5
	11443	−58	+27	65	16	4
	11443	−56	+31	65	36	7
	11443	−56	+27	64	12	1
	11443	−54	+31	63	16	3

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U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11443	−53	+28	60	97	6
	11443	−51	+31	59	16	5
	11443	−50	+27	57	12	6
	11443	−47	+28	56	436	1
	11442	−42	+27	52	73	1
	11440	−17	+22	32	24	8
	11440	−17	+23	33	48	11
	11440	−16	+24	33	32	3
	11440	−15	+22	30	97	6
	11440	−13	+22	29	121	15
	11440	−11	+20	26	73	10
	11440	−10	+18	25	61	3
	11440	−10	+22	27	24	5
	11440	− 6	+20	26	582	12
	11440	− 5	+17	24	24	6
	11440	− 4	+20	25	388	4
	11440	− 2	+23	26	6	1
	11440	− 2	+18	24	6	1
	11440	0	+18	24	6	3
	11440	+ 1	+19	25	6	1
	11440	+ 2	+20	25	97	2
	11437	0	+29	34	73	3
	11437	+ 1	+27	33	6	3
	11437	+ 3	+29	34	12	4
	11437	+ 4	+31	35	16	12
	11437	+ 5	+29	34	97	15
	11437	+ 6	+27	33	6	1
	11437	+ 7	+27	34	6	1
	11437	+ 8	+28	34	6	3
	11437	+10	+27	34	12	1
	11437	+10	+26	33	16	5
	11437	+12	+27	34	267	4
	11437	+13	+26	34	16	3
	11437	+16	+26	35	6	1
	11439	+ 2	+25	30	48	8
	11439	+ 4	+24	30	436	5
	11435	+46	−34	53	24	4
	11435	+49	−34	55	16	3
	11435	+53	−35	57	36	5
	(6)	(199)	(−5)		3545	220
20.801 N–1	11443	−47	+27	56	61	1
	11443	−46	+25	54	48	1
	11443	−45	+26	54	48	1
	11443	−44	+28	54	73	2
	11443	−38	+26	49	630	1
	11442	−29	+26	43	61	1
	11440	− 6	+21	26	73	1
	11440	− 6	+23	28	73	1
	11440	− 5	+24	29	73	1
	11440	− 5	+22	26	145	2
	11440	− 4	+23	26	73	1
	11440	− 1	+23	26	145	1
	11440	0	+21	25	73	2
	11440	+ 2	+20	25	194	1
	11440	+ 3	+22	26	48	1
	11440	+ 5	+21	25	679	3
	11440	+ 6	+18	24	48	2
	11440	+ 7	+21	26	582	3
	11440	+12	+20	27	48	1
	11437	+11	+29	36	73	1
	11437	+15	+30	37	73	2
	11437	+16	+29	37	145	2
	11437	+24	+28	41	388	2
	11439	+14	+26	34	73	1
	11439	+15	+20	28	97	1
	11439	+16	+24	33	630	1
	(5)	(185)	(−5)		4654	37
21.644 N–2	11443	−36	+26	46	48	1
	11443	−36	+24	45	16	1
	11443	−35	+25	45	24	1
	11443	−34	+27	46	12	2
	11443	−27	+26	41	630	5
	11442	−19	+26	36	16	1
	11440	+ 4	+23	28	32	2
	11440	+ 5	+24	29	24	2
	11440	+ 6	+23	28	97	3
	11440	+ 7	+23	28	36	1
	11440	+ 8	+21	26	24	1
	11440	+10	+21	26	97	2
	11440	+12	+23	29	24	1
	11440	+14	+23	30	16	1
	11440	+15	+21	29	630	7
	11440	+18	+21	32	436	3
	11440	+19	+18	31	194	1
	11440	+20	+19	32	32	2
	11440	+22	+20	33	97	2
	11440	+24	+20	34	48	1
	11440	+26	+20	36	73	1
	11439	+27	+25	41	485	1
	11437	+27	+28	43	32	1
	11437	+35	+28	47	291	1
	(5)	(174)	(−5)		3414	44
22.798 M–2	11445	−77	−17	78	145	2
	11444	−61	+34	69	12	1
	11443	−22	+25	36	12	3
	11443	−21	+26	37	16	1
	11443	−20	+24	35	12	2
	11443	−19	+25	35	12	6
	11443	−18	+26	35	16	8
	11443	−15	+25	33	12	2
	11443	−14	+23	31	16	3
	11443	−14	+25	33	97	6
	11443	−13	+22	29	12	3
	11443	−13	+24	31	48	2

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U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11443	−11	+26	33	388	3
	11440	+17	+23	33	12	3
	11440	+18	+22	33	12	1
	11440	+19	+22	34	48	1
	11440	+19	+19	32	12	2
	11440	+21	+23	34	12	1
	11440	+22	+22	34	145	4
	11440	+24	+21	35	73	5
	11440	+25	+22	36	24	3
	11440	+26	+21	36	121	4
	11440	+27	+17	35	24	1
	11440	+29	+20	38	727	5
	11440	+32	+19	39	582	3
	11440	+36	+18	43	170	3
	11440	+40	+19	46	73	1
	11439	+42	+24	49	485	1
	11437	+49	+27	57	242	1
	11437	+52	+27	59	36	1
	(6)	(159)	(−5)		3596	82
23.771	11445	−67	−16	68	194	2
N−1	11445	−63	−16	64	242	1
	11443	− 8	+28	34	73	1
	11443	− 8	+26	33	24	1
	11443	− 3	+24	29	85	1
	11443	− 2	+26	31	24	1
	11443	− 1	+28	34	24	1
	11443	− 1	+25	30	36	1
	11443	− 1	+26	31	48	1
	11443	+ 1	+23	28	73	1
	11443	+ 2	+26	31	388	1
	11440	+33	+22	42	73	2
	11440	+35	+22	44	73	2
	11440	+37	+21	45	145	2
	11440	+41	+19	46	242	2
	11440	+44	+21	51	970	2
	11440	+48	+18	54	291	1
	11440	+53	+19	57	97	1
	11440	+54	+20	59	121	1
	11439	+55.	+24	61	388	1
	11437	+60	+27	66	242	1
	(5)	(146)	(−5)		3853	27
24.634	11445	−58	−16	59	170	1
N−1	11445	−55	−16	56	73	1
	11445	−52	−17	53	291	1
	11443	+ 5	+25	30	48	1
	11443	+ 9	+24	31	73	1
	11443	+10	+28	34	61	1
	11443	+12	+26	33	436	2
	11443	+13	+23	30	97	1
	11440	+44	+22	51	36	1
	11440	+46	+23	53	24	1

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11440	+49	+21	55	194	2
	11440	+51	+21	56	48	1
	11440	+54	+18	58	194	3
	11440	+55	+21	60	873	4
	11440	+58	+18	62	145	1
	11440	+60	+19	64	97	1
	11439	+66	+24	71	339	1
	11437	+75	+27	78	194	1
	(5)	(135)	(−5)		3393	25
25.731	11447	−49	+25	55	24	1
N−2	11447	−46	+25	54	73	1
	11445	−43	−16	44	145	1
	11445	−41	−16	43	16	1
	11445	−37	−17	40	291	1
	11443	+17	+24	34	61	1
	11443	+23	+27	39	48	1
	11443	+25	+25	38	582	2
	11443	+26	+23	38	32	2
	11440	+56	+22	62	97	1
	11440	+61	+21	65	194	1
	11440	+65	+21	69	582	2
	11440	+65	+18	69	242	2
	11440	+67	+20	71	291	2
	11440	+67	+18	71	194	1
	11439	+82	+24	85	291	1
	(5)	(120)	(−5)		3163	21
26.580	11447	−40	+24	51	12	1
N−3	11447	−40	+25	52	12	1
	11447	−37	+24	49	36	1
	11447	−36	+25	48	16	1
	11447	−35	+26	47	48	1
	11445	−33	−17	34	97	3
	11445	−26	−18	28	242	1
	11443	+28	+24	42	24	1
	11443	+33	+28	47	24	1
	11443	+34	+27	47	24	1
	11443	+35	+25	47	630	2
	11443	+36	+22	46	24	2
	11440	+75	+21	78	194	1
	11440	+85	+21	88	776	1
	(4)	(109)	(−6)		2159	18
27.565	11447	−30	+24	43	48	1
N−3	11447	−28	+24	42	32	1
	11447	−26	+25	41	32	1
	11447	−23	+26	39	36	1
	11445	−18	−17	22	73	2
	11445	−14	−17	17	97	1
	11445	−13	−17	17	145	1
	11443	+47	+25	57	485	2

JANUARY

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11443	+50	+25	60	48	1
	(3)	(96)	(−6)		996	11
28.625	11447	−16	+24	34	121	1
N−1	11447	−12	+25	34	61	2
	11445	− 4	−17	13	24	1
	11445	0	−17	12	97	1
	11445	+ 1	−17	12	97	1
	11443	+60	+25	68	291	2
	(3)	(82)	(−6)		691	8
29.737	11450	−78	−36	77	145	1
M−1	11447	− 1	+26	33	12	2
	11447	0	+25	32	24	1
	11447	+ 2	+26	33	24	4
	11447	+ 3	+26	33	12	1
	11447	+ 3	+21	26	12	1
	11451	+10	+22	29	12	1
	11451	+12	+20	28	16	1
	11445	+ 9	−18	16	12	1
	11445	+14	−18	18	97	2
	11443	+76	+25	81	291	1
	(5)	(67)	(−6)		657	16
31.617	11456	−77	+29	79	194	1
N−2	11455	−58	−19	59	97	1
	11450	−52	−36	57	121	1
	11445	+40	−16	42	73	1
	(4)	(43)	(−6)		485	4

Mean for 30 days, $A = 1763$, $r = 82.2$